

**BEFORE THE
PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA
DOCKET NO. 2010-3-E**

In the Matter of
Annual Review of Base Rates
for Fuel Costs for
Duke Energy Carolinas, LLC

)
)
)
)
)

**DIRECT TESTIMONY OF
MARION ELLIOTT BATSON FOR
DUKE ENERGY CAROLINAS, LLC**

1 **Q. PLEASE STATE YOUR NAME, ADDRESS, AND POSITION WITH DUKE**
2 **ENERGY.**

3 A. My name is Marion Elliott Batson, and my business address is 526 South Church
4 Street, Charlotte, North Carolina 28202. I am Managing Director, Regulated Fuels
5 for Duke Energy Corporation (“Duke Energy”) and in that capacity I am responsible
6 for the purchase and delivery of fossil fuel that Duke Energy Carolinas, LLC (“Duke
7 Energy Carolinas” or the “Company”) and the other Duke Energy regulated utilities
8 use for the generation of electricity.

9 **Q. STATE BRIEFLY YOUR EDUCATION, BUSINESS BACKGROUND, AND**
10 **PROFESSIONAL AFFILIATIONS.**

11 A. I am a 1985 graduate of the University of South Carolina with a Bachelor of Science
12 in Business Administration. I have been employed with Duke Energy since 1986
13 and have worked in various fossil fuel procurement functions and leadership roles
14 since 1990. I am a member of the North Carolina Coal Institute.

15 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**
16 **PROCEEDING?**

17 A. The purpose of my testimony is to furnish information relating to the Company’s
18 fossil fuel purchasing practices and costs for the review period of June 2009 through
19 May 2010 (the “review period”), and to describe changes forthcoming for the billing
20 period of October 2010 through September 2011 (the “billing period”). I also will
21 address the limestone costs that are included in the proposed fuel factor in
22 accordance with the South Carolina fuel cost recovery statute that allows for the

1 inclusion of reagent costs.

2 **Q. YOUR TESTIMONY INCLUDES THREE EXHIBITS. WERE THESE**
3 **EXHIBITS PREPARED BY YOU OR AT YOUR DIRECTION AND UNDER**
4 **YOUR SUPERVISION?**

5 A. Yes.

6 **Q. PLEASE PROVIDE A DESCRIPTION OF THESE EXHIBITS.**

7 A. The exhibits provide the following information:

8 Batson Exhibit 1 – Fossil Fuel Procurement Practices

9 Batson Exhibit 2 – Fossil Fuel Detail: Purchases, Consumption and
10 Inventories

11 Batson Exhibit 3 – Comparison of Central Appalachia Coal Market Prices to
12 Duke Energy Carolinas Average Coal Cost

13 **Q. CAN YOU PROVIDE A SUMMARY OF DUKE ENERGY CAROLINAS’**
14 **FOSSIL FUEL PROCUREMENT PRACTICES?**

15 A. Yes. The Company continues to follow the same procurement practices that it has
16 historically followed, which include establishing appropriate inventory
17 requirements; regular Requests for Proposals (“RFPs”) and bid evaluation;
18 balancing long-term contract and spot purchases; staggering contract expirations;
19 pursuing contract extension options; maintaining a well-diversified coal supplier
20 base; and actively monitoring supplier and railroad performance. A summary of
21 those practices is set out in Batson Exhibit 1.

1 **Q. PLEASE DISCUSS THE COMPANY’S COST OF FOSSIL FUEL FOR THE**
2 **REVIEW PERIOD.**

3 A. A summary of Duke Energy Carolinas’ costs as well as other statistical information
4 for each fossil fuel category for the review period is set forth on Batson Exhibit 2.
5 This exhibit includes the quantities purchased and consumed, the weighted average
6 purchase price for each fuel, and inventory. Because several components make up
7 the total cost of coal, coal statistics are broken down to show the average freight on
8 board mine cost, the transportation cost, and the delivered cost per million British
9 thermal units (“BTUs”).

10 The delivered cost per ton of coal increased approximately 4% from an
11 average of \$87.61 for the prior period, June 2008 to May 2009 (the “prior period”),
12 to an average of \$90.83 for the review period. The average mine price per ton of
13 coal increased approximately 7% from an average of \$63.64 for the prior period to
14 an average of \$68.44 for the review period. Batson Exhibit 3 illustrates that Duke
15 Energy Carolinas’ average coal cost during the review period and over time
16 compares favorably to Central Appalachia coal market prices. The average
17 transportation rate per ton of coal decreased approximately 7% from an average of
18 \$23.98 for the prior period to an average of \$22.39 for the review period. The
19 decrease is due to lower fuel surcharges applied by the railroads as a result of a net
20 decrease in fuel oil prices during the period. Transportation costs constituted 25%
21 of the Company’s total delivered cost of coal during the review period.

22 Despite high market volatility over the past 18 months, the Company’s
23 actual coal and transportation prices for 2009 and 2010 are within 1% of the prices

1 projected in Duke Energy Carolinas' last fuel adjustment proceeding (Docket No.
2 2009-3-E) and used by the Company in developing the current approved fuel factor
3 being billed for the October 2009 through September 2010 period.

4 The average oil cost for the review period decreased 5% to \$2.07 per gallon
5 compared to the prior review period, and average natural gas costs decreased 230%
6 to \$4.05/MCF (thousand cubic feet) compared to the same periods. The significant
7 decrease in natural gas costs is due to weak demand and an abundance of new shale
8 gas production coming online during the review period. Oil and natural gas
9 combined accounted for only 2% of the Company's total fossil fuel costs during the
10 review period.

11 **Q. IS THE COMPANY UTILIZING ANY BIOMASS PRODUCTS?**

12 A. Yes, the Company is performing co-firing tests at one steam station and production
13 burns at another, blending wood products with coal. Contracting efforts remain
14 confined to spot market purchases of small volumes, and delivery of biomass has
15 been limited to trucks from mostly local markets. As part of the Company's
16 compliance efforts related to the North Carolina Renewable Energy Portfolio
17 Standard ("REPS"), the Company has included biomass for the billing period.

18 **Q. WHAT CHANGES DO YOU SEE IN COAL MARKET CONDITIONS**
19 **FORTHCOMING IN 2010 AND 2011?**

20 A. Since the fall of 2008, coal prices, along with most other commodities, have fallen
21 very sharply. However, most energy commodities are currently well above the
22 lowest prices posted in 2009. As of July 2010, Central Appalachia coal prices for
23 balance of 2010 delivery are in the mid to upper \$60s per ton, with 2011 deliveries

1 priced in the low \$70s per ton. The higher forward prices for 2011 are due to a
2 general expectation that there will be greater demand due to some recovery in
3 economic activity later in 2010 and continuing into 2011, and that utilities will
4 resume more normal buying patterns as their inventories return to more desirable
5 levels.

6 On the supply side, a significant but indeterminate volume of the Company's
7 Central Appalachia coal is mined through mountaintop coal removal ("MTR")
8 methods. There is a growing concern among some regulators, public officials, and
9 activist groups regarding MTR mining methods that could eventually lead to a
10 prohibition on this type of coal mining.

11 Also, as the Company has noted in prior years' testimony, mining operating
12 costs continue to escalate due to declining mining productivity and increasingly
13 difficult permitting requirements. Increased regulations associated with permitting
14 surface reserves have significantly affected Central Appalachia production, causing
15 uncertainty with both existing and new permits. Although these issues may not be
16 resolved anytime soon, the lower demand for steam coal that has characterized the
17 past eighteen months has likely masked the underlying weakness in production
18 capacity in Central Appalachia.

19 In addition, for the balance of 2010 and 2011, the Company expects supply
20 to be less available compared to 2009 as many producers have shut down
21 production in response to the falling demand for steam coal in 2009 and early 2010
22 and have shifted resources to more profitable metallurgical coal production. Unlike
23 the steam market, the export market for metallurgical coal is fairly robust and

1 producers in Central Appalachia report they are able to sell that product for as much
2 as \$200 per ton and more at the mines.

3 The Company expects much uncertainty for the supply of, and demand for,
4 steam coal because of the current instability of U.S. and world economic conditions.

5 As a result, the Company anticipates continued coal pricing volatility over the next
6 several years. Recent experience has shown that even minor imbalances between
7 market supply and demand can result in large changes in coal market prices.

8 **Q. DO THE COMPANY'S COAL PROCUREMENT PRACTICES**
9 **DESCRIBED IN BATSON EXHIBIT 1 NEED TO CHANGE AS A RESULT**
10 **OF THE CHANGES IN THE COAL MARKETS THAT YOU HAVE**
11 **DISCUSSED?**

12 A. No. The fundamentals of Duke Energy Carolinas' procurement practices are sound.
13 The Company intends to conduct test burns of coals from alternative supply regions
14 at several steam stations over the next twelve months.

15 **Q. WHAT CHANGES DO YOU EXPECT IN THE COMPANY'S COST OF**
16 **COAL IN 2010 AND 2011?**

17 A. As stated previously in this testimony, Eastern coal prices have fluctuated
18 significantly over the past eighteen months. Because the Company maintains a
19 portfolio of purchases of varying volumes and staggered expiration dates and has
20 greater than 95% of its expected 2010 coal needs and approximately 70% of its
21 expected 2011 coal requirements already under firm prices, the Company anticipates
22 stable mine prices for the billing period compared to the review period. Based upon
23 the contract prices for existing coal purchase commitments, forward price curves,

1 and recently bid coal for 2011, the Company estimates the average cost of coal will
2 be approximately \$68.98 per ton for the billing period. The Company currently is
3 evaluating the results of an RFP issued several weeks ago and is actively negotiating
4 purchase agreements with several suppliers to further address 2011 and forward coal
5 supply needs.

6 There are potential additional costs associated with suppliers' compliance
7 with legal and statutory changes, the effects of which can be passed on through coal
8 contracts. Although the Company has a strong contract compliance monitoring
9 process, this projected cost also assumes complete performance of contract
10 deliveries by suppliers and railroads.

11 **Q. WHAT CHANGES DO YOU EXPECT IN THE COMPANY'S COST OF**
12 **TRANSPORTATION IN 2010 AND 2011?**

13 A. Duke Energy Carolinas maintains multi-year rail contract arrangements for the
14 delivery of coal with the Norfolk Southern Railway Company ("NS") and CSX
15 Transportation ("CSX"). Both contracts, however, expired at the end of June, 2010.
16 The Company has executed a long-term replacement contract with CSX and a
17 short-term contract with NS. The Company will seek Duke Energy Board of
18 Directors approval to execute a long-term replacement contract with NS during the
19 next scheduled Board meeting in August 2010. The Company estimates that the
20 average cost of coal transportation will be approximately \$25.55 per ton for the
21 billing period. This projected cost represents an approximate 12% increase
22 compared to the review period.

23 Both contracts will be subject to fuel surcharges, which are indexed to oil

1 prices and are proportional to oil price instability, and changes in petroleum prices
2 could affect the actual transportation cost over the period. In addition, actual freight
3 costs will be impacted by the actual amount of non-Central Appalachia coal
4 purchased and delivered.

5 The future activities of the railroads and the Surface Transportation Board
6 will continue to impact the Company's level of service and cost of rail
7 transportation. As such, the Company supports legislative and regulatory efforts to
8 promote competition as well as to ensure reasonable rates in the railroad industry.

9 **Q. WHAT IS THE COMPANY PROJECTING THE COST OF COAL AND**
10 **TRANSPORTATION TO BE FOR THE BILLING PERIOD?**

11 A. Adding the coal and transportation together, the Company is projecting average
12 delivered coal costs to be approximately \$94.53 per ton for the billing period of
13 October 2010 through September 2011. The projected cost represents an
14 approximate 4% increase compared to the review period.

15 **Q. HOW DOES THE COMPANY INTEND TO MANAGE ITS COAL COSTS**
16 **FOR THE BILLING PERIOD?**

17 A. Duke Energy Carolinas continues to maintain a comprehensive coal procurement
18 strategy that has proven successful over many years in limiting average annual coal
19 price increases and maintaining average coal costs at or well below those seen in the
20 marketplace. Increased coal generation over the last few months due to extremely
21 hot weather has reduced inventory levels to normal and, more recently, increased
22 demand for coal supply and rail transportation. The Company is closely monitoring
23 available rail capacity to transport increasing volumes of coal compared to the prior

1 eighteen months. The Company has leased additional train sets in an effort to
2 increase rail capacity and supply additional volumes of coal.

3 The Company will continue to evaluate all U.S. and international coal
4 supply basins. Based on the initial evaluation of the Company's recent RFP and
5 current market conditions, sourcing coal from new regions is becoming more
6 competitive with coal delivered from Central Appalachia. Purchases are expected to
7 be limited, however, due to significant differences in coal qualities that impact
8 power plant operations, as well as higher transportation rates and risks.

9 Potential opportunities will be competitively evaluated in accordance with
10 the Company's procurement practices. The Company maintains and complies with
11 coal contract and spot procurement target guideline percentages for each type of
12 purchase.

13 Other aspects of this procurement strategy include maintaining an
14 appropriate mix of contract and spot purchases, staggering contract expirations so
15 the Company is not faced with price changes for a significant percentage of
16 purchases at any one time, and pursuing contract extension options that provide
17 flexibility to extend terms within some price collar. The Company has developed a
18 well-diversified coal supplier base in Central Appalachia, although consolidation
19 among the coal producers is making it increasingly difficult to accomplish this
20 objective. The largest single supplier is expected to represent approximately 23% of
21 total coal purchases in 2010, while the top three represent 60% of total supply.

22 A final aspect that is critical to controlling costs is the active monitoring of
23 supplier and railroad performance. This has been a key initiative for the last few

1 years and will remain important in 2010 and 2011, as well.

2 **Q. PLEASE EXPLAIN THE COMPANY'S FUEL INVENTORY POSITIONS.**

3 A. Batson Exhibit 2 shows inventories at the end of the prior review period and at the
4 end of the review period. Coal inventories decreased from 4,424,938 tons as of May
5 31, 2009, to 3,576,062 tons as of May 31, 2010, which equates to 49 days of full
6 load burn. The Company's system coal inventory has now returned to normal
7 levels. The decrease in inventory for the review period is the result of Company
8 efforts to renegotiate contracts to reduce inventory and higher than expected coal
9 burns this spring due to much hotter than normal weather.

10 Oil inventories for the review period decreased approximately 2% as
11 compared to the prior review period. Also shown on Exhibit 2 is inventory for
12 biomass wood product for co-firing purposes.

13 **Q. COMPANY WITNESS ROEBEL DISCUSSES THE COMPANY'S**
14 **ENVIRONMENTAL CONTROLS EQUIPMENT AND THE USE OF**
15 **REAGENTS IN THE OPERATION OF THE EQUIPMENT. IS THE**
16 **REGULATED FUELS DEPARTMENT RESPONSIBLE FOR**
17 **PROCUREMENT OF ANY OF THESE REAGENTS?**

18 A. Yes. The Regulated Fuels department is responsible for purchasing and
19 transportation logistics for limestone that is used in the operation of Duke Energy
20 Carolinas' flue gas desulfurization ("FGD" or "Scrubber") equipment, which
21 removes SO₂ from coal plant operations. There are many similarities between
22 limestone and coal, thereby leading to the decision to group these bulk commodities
23 within the same procurement function. Limestone, like coal, is delivered by rail and

1 requires extensive logistics support to ensure proper delivery. The volume of
2 limestone required varies based on the sulfur content of coal. Therefore, close
3 coordination and planning between the two commodities is required. Also,
4 inventory management of limestone is very similar to coal, requiring frequent
5 review of limestone use, deliveries, and total inventory.

6 **Q. WHAT COSTS FOR LIMESTONE ARE INCLUDED IN THE COMPANY'S**
7 **PROPOSED FUEL FACTORS?**

8 A. For the billing period, limestone will be consumed at Marshall, Belews Creek, and
9 Allen steam stations along with Cliffside, as the unit 5 FGD equipment is scheduled
10 to be in service by the end of 2010. Projected use at each plant varies, but
11 consumption will be approximately 47,000 tons per month. Limestone supply for
12 Marshall, Belews Creek, and Allen has been secured from a central Virginia source
13 under a long-term supply contract that was competitively bid and entered into in
14 2004. In early 2010, an additional limestone supply contract was competitively bid
15 for deliveries into Cliffside and secured from a Kentucky source under a long-term
16 supply contract. Deliveries recently have commenced to support the Cliffside unit 5
17 FGD start up scheduled by the end of 2010. Additionally, multi-year rail contracts
18 have been established for all plants to support delivery of limestone. Total
19 limestone expenses are projected to be approximately \$17 million for the billing
20 period.

21 **Q. DID NATURAL GAS FACTOR INTO THE COMPANY'S FUEL COSTS**
22 **FOR THE BILLING PERIOD AT ISSUE?**

23 A. As mentioned previously, the cost of natural gas for the review period decreased

1 significantly. Natural gas pricing fluctuates based on market conditions but is not a
2 significant factor in fuel rates. However, purchase and consumption activity for
3 natural gas will increase with new combined cycle units scheduled for production in
4 late 2011 at Buck and in late 2012 at Dan River.

5 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

6 A. Yes, it does.

Duke Energy Carolinas Fossil Fuel Procurement Practices

Coal

- Near and long-term consumption forecasts are computed based on factors such as: load projections, fleet maintenance and availability schedules, coal quality and cost, environmental permit and emissions considerations, wholesale energy imports and exports.
- Station and system inventory targets are determined and designed to provide: reliability, insulation from short-term market volatility, and sensitivity to evolving coal production and transportation conditions. Inventories are monitored continuously.
- On a continuous basis, existing purchase commitments are compared with consumption and inventory requirements to ascertain additional needs.
- All qualified suppliers are invited to make proposals to satisfy any additional or future contract needs.
- Contracts are awarded based on the lowest evaluated offer, considering factors such as price, quality, transportation, reliability and flexibility.
- Spot market solicitations are conducted on an on-going basis to supplement contract purchases.
- Delivered coal volume and quality are monitored against contract commitments. Coal and freight payments are calculated based on certified scale weights and coal quality analysis meeting ASTM standards. During the test period the Company utilized both destination and origin weights and analysis.

Natural Gas

- Near and long-term consumption forecasts are generated by the same system that produces coal estimates. Gas is burned exclusively in peaking assets – combustion turbines.
- Gas is not locally inventoried, but rather scheduled and delivered via pipeline on a daily basis. Oil is burned when gas is not economically available.
- In response to annual solicitation, suppliers submit proposals to provide bundled supply service to peaking facilities. This service consists of the commodity (gas), its transportation (pipeline), storage, and balancing services.
- Contracts are awarded based on the overall economic value offered, considering factors such as price, responsiveness, reliability, and best operational fit.

Fuel Oil

- Consumption forecasts are generated by the same system that produces coal estimates. No. 2 diesel is burned for initiation of coal combustion (light-off at steam plants) and in combustion turbines (peaking assets).
- All diesel fuel is moved via pipeline to terminals where it is then loaded on trucks for delivery into the Company's storage tanks. Because oil usage is highly variable, Duke relies on a combination of inventory and reliable suppliers who are responsive and can access multiple terminals. Diesel is replaced on an "as needed basis" as called for by station personnel with guidance from fuel procurement staff.
- Formal solicitation for supply is conducted annually. Contracts are awarded based on the lowest evaluated offer with special value on suppliers' demonstrated ability to move large volumes of fuel with minimal notice.

DUKE ENERGY CAROLINAS
2010 SOUTH CAROLINA ANNUAL FUEL FILING
FOSSIL FUEL DETAIL
JUNE 2009 - MAY 2010

<u>Coal</u>	Tons Burned	14,306,993
	Tons Purchased	13,460,738
	Avg. Mine Price/Ton	\$68.44
	Avg. Freight Price/Ton	\$22.39
	Avg. Delivered Price/Ton	\$90.83
	Avg. Delivered Price/MBTU	\$3.689
	Inventory as of 5/31/2009	4,424,938
	Inventory as of 5/31/2010	3,576,062
<u>Biomass</u> _/1	Tons Burned	2,530
	Tons Purchased	3,082
	Avg. Delivered Price/Ton	\$37.68
	Inventory as of 5/31/2009	-
	Inventory as of 5/31/2010	552
<u>Fuel Oil</u>	Gallons Consumed	8,020,339
	Gallons Purchased	8,075,235
	Avg. Delivered Price/Gal	\$2.07
	Inventory as of 5/31/2009	19,042,048
	Inventory as of 5/31/2010	18,588,538
<u>Natural Gas</u>	Mcf Consumed	1,949,932
	Mcf Purchased	1,949,932
	Avg. Delivered Price/mcf	\$4.05

_/1 Biomass represents wood product for year-to-date 2010. Prior year data reported with coal.

**Comparison of Central Appalachia Coal Market Prices to
Duke Energy Carolinas Average Coal Mine Cost**

